

6AK6

POWER AMPLIFIER PENTODE

MINIATURE TYPE

Heater	Coated Unipotential Cathode	
Voltage	6.3	a-c or d-c volts
Current	0.15	amp.
Direct Interelectrode Capacitances (Approx.):•		
Grid to Plate	0.12	μμf
Input	3.6	μμf
Output	4.2	μμf
Maximum Overall Length		2-1/8"
Maximum Seated Height		1-7/8"
Length from Base Seat to Bulb Top (excluding tip)		1-1/2" ± 3/32"
Maximum Diameter		3/4"
Bulb		T-5-1/2
Base ▲		Miniature Button 7-Pin

Pin 1 - Grid No. 1
Pin 2 - Grid No. 3
Pin 3 - Heater
Pin 4 - Heater
Pin 5 - Plate
Pin 6 - Grid No. 2
Pin 7 - Cathode

BOTTOM VIEW (7BK)

RCA Socket	Stock No. 9914
Mounting Position	Any

Maximum Ratings Are Design-Center Values

A-F AMPLIFIER

Plate Voltage	300 max.	volts
Screen Voltage (Grid No. 2)	250 max.	volts
Plate Dissipation	2.75 max.	watts
Screen Dissipation	0.75 max.	watt
D-C Heater-Cathode Potential	100 max.	volts

Typical Operation and Characteristics - Class A_1 Amplifier:

Plate Voltage	180	volts
Suppressor (Grid No. 3)	Connected to cathode at	socket
Screen Voltage	180	volts
Grid Voltage (Grid No. 1) ♦	-9	volts
Peak A-F Grid Voltage	9	volts
Zero-Signal Plate Current	15	ma.
Zero-Signal Screen Current	2.5	ma.
Plate Resistance	0.2	megohm
Transconductance	2300	μmhos
Load Resistance	10000	ohms
Total Harmonic Distortion	10	%
Max.-Sig. Power Output	1.1	watts

• With no external shield.

♦ The d-c resistance in the grid circuit under maximum rated conditions should not exceed 0.5 megohm for cathode-bias operation and 0.1 megohm for fixed-bias operation.

▲ *The center hole in sockets designed for this base provides for the possibility that this tube type may be manufactured with the exhaust-tube tip at the base end. For this reason, it is recommended that in equipment employing this tube type, no material be permitted to obstruct the socket hole.*

OCT. 1, 1943 — TENTATIVE DATA

RCA VICTOR DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

6AK6



6AK6

AVERAGE PLATE CHARACTERISTICS
PENTODE CONNECTION

E_f = 6.3 VOLTS SCREEN VOLTS = 180

CONTROL-GRID VOLTS E_{C1} = -9

E_{C1} = 0
-3
-6
-12
-15
-18

PLATE VOLTS
0 50 100 150 200 250 300 350 400

PLATE MILLIAMPERES
50 40 30 20 10 0

AUG. 11, 1943

RCA VICTOR DIVISION
RADIO CORPORATION OF AMERICA HARRISON NEW JERSEY

92C-6450



6AK6

AVERAGE PLATE CHARACTERISTICS
TRIODE CONNECTION

E_f = 6.3 VOLTS   SCREEN CONNECTED TO PLATE

GRID VOLTS E_c=0

PLATE VOLTS: 0, 50, 100, 150, 200, 250, 300, 350, 400

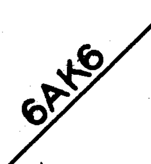
PLATE MILLIAMPERES: 50, 40, 30, 20, 10, 0

6AK6

AUG. 11, 1943

RCA VICTOR DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92C-6449





6AK6

POWER AMPLIFIER PENTODE

OPERATION CHARACTERISTICS

TYPE 6AK6
E_f = 6.3 VOLTS
PLATE VOLTS = SCREEN VOLTS = 180
CONTROL-GRID VOLTS = -9
LOAD RESISTANCE (OHMS) = 10000

TOTAL DISTORTION
2 ND H.
SIGNAL VOLTS
3 RD H.

HARMONIC DISTORTION-PER CENT: 0, 2, 4, 6, 8, 10, 12
SIGNAL VOLTS (RMS): 0, 2, 4, 6, 8
POWER OUTPUT-WATTS: 0, 0.4, 0.8, 1.2

92C-6451

OPERATION CHARACTERISTICS

TYPE 6AK6
E_f = 6.3 VOLTS
PLATE VOLTS = SCREEN VOLTS = 180
CONTROL-GRID VOLTS = -9
SIGNAL VOLTS (RMS) = 6.35

POWER OUTPUT
TOTAL DISTORTION
2 ND H.
3 RD H.

POWER OUTPUT-WATTS: 0, 0.2, 0.4, 0.6, 0.8, 1.0, 1.2
HARMONIC DISTORTION-PER CENT: 2, 4, 6, 8
LOAD RESISTANCE-KILOHMS: 4, 8, 12, 16

92C-6452